

### REMARKS/ARGUMENTS

Favorable reconsideration of this application is respectfully requested.

Claims 8-26 are pending in this application. Applicants believe that claims 8-20 are allowed. Claims 21-26 were rejected under 35 U.S.C. § 112, first paragraph. Claims 21-26 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. patent 6,144,093 to Davis et al. (herein "Davis") in view of U.S. patent 5,925,926 to Watanabe.

Initially, applicants note the outstanding Office Action indicated that only claims 21-26 are pending in this application. Claims 8-20 are also pending in this application, and based on the indication in the previous Office Action of October 9, 2003, applicants believe that claims 8-20 are allowed.

Addressing now the rejection of claims 21-26 under 35 U.S.C. § 112, first paragraph, that rejection is traversed by the present response.

Applicants initially note claims 21-26 are amended to make minor clarifications. Specifically, independent claim 21 now clarifies that a first end of the inner lead frame is connected to the main electrode, to distinguish with the second end of the inner lead frame connected to the package lead. Independent claim 22 also clarifies that the first end "almost entirely" covers the Schottky diode. Claims 24 and 25 are similarly amended as in claims 21 and 22 noted above, respectively. With respect to the rejection of claims 21-26 under 35 U.S.C. § 112, first paragraph, applicants submit the claims are fully supported by the original specification.

In the "Response to Arguments" section on pages 5-6 of the Office Action, it is noted that "[s]ince 9<sub>1</sub>(or 9<sub>2</sub>) in Figure 7A(7B) is one device (a MOSFET or a diode), 9<sub>1</sub> cannot be corresponding to a chip Q1(or Q2) with two devices (a MOSFET and a diode)".

With respect to the above-noted basis for the outstanding rejection, applicants submit that the interpretation of the present disclosure is incorrect.

In the sixth embodiment of the present invention shown for example in Figures 7A and 7B, reference numerals 9<sub>1</sub> and 9<sub>2</sub> denote semiconductor chips (see for example the specification at page 14, line 11) and there is no description stating that element 9<sub>1</sub> (or 9<sub>2</sub>) is one device (a MOSFET or a diode). In the noted sixth embodiment the semiconductor device includes, for example, two electrodes on an upper surface of a chip and an electrode on the bottom surface of the chip, and that embodiment can be applied to a circuit device that includes such elements.

For example as noted in the present specification at page 17, lines 19-26, the package of the sixth embodiment can be effectively applied to part of such a synchronous rectifier as shown in Figure 8. In this case, Q1 is a MOSFET including a parasitic diode and Q2 is a MOSFET including a parasitic diode to which an SBD is connected in parallel. Both Q1 and Q2 are three-terminal semiconductor chips. Therefore, applicants traverse the statement in the Office Action that 9<sub>1</sub> is a MOSFET or a diode as that is not the case.

The comments in the Office Action also appear to imply that element 9<sub>2</sub> of Figure 7B is a diode. However, applicants note that is not the case. Q1 corresponds to 9<sub>2</sub>, and the source S1 of Q1 is connected to the drain electrode S2 of Q2 via a source electrode 152, lead portion 29, and protruding lead 33. As shown in Figure 7A, the source electrode lead (inner lead frame) 151 for Q2 almost entirely covers the upper surface of the chip except for the gate electrode portion 9<sub>1</sub>. Consequently, the source electrode lead (inner lead frame) 151 covers the Schottky diode almost entirely. That feature is also now clarified in dependent claims 22 and 25 as noted above.

The comments in the Office Action also appear to indicate that the remarks filed January 10, 2004, indicated that 9<sub>2</sub> in Figure 7B is a diode. However, applicants believe the remarks do not indicate any such matter.

In such ways, in view of the presently submitted claim amendments and the foregoing comments applicants respectfully submit that each of claims 21-26 is in full compliance with all requirements under 35 U.S.C. § 112, first paragraph.

Addressing now the rejection of claims 21-26 under 35 U.S.C. § 103(a) as unpatentable over Davis in view of Watanabe, that rejection is traversed by the present response.

Independent claims 21 and 24 indicate a Schottky diode is provided in a transistor chip, that is, the Schottky diode is integrally provided in the transistor chip and the Schottky diode and transistor are connected to the package lead with an inner lead. Such a structure is believed to clearly distinguish over Davis in view of Watanabe.

In Davis the MOSFET and the diode are individual chips, in contrast to independent claims 21 and 24 in which the Schottky diode is formed in the transistor chip. Further, in Davis the chip electrode and package lead are connected by bonding wires, respectively, to the chips. That structure is in contrast to claims 21 and 24 in which the Schottky diode and the transistor are connected to the package lead with an inner lead.

Moreover, applicants respectfully submit that Watanabe does not overcome the deficiencies in Davis. Watanabe discloses a sheet-type lead, which is related to a TAB lead. The leads of Watanabe connect each electrode provided on the corners of the chip and each outer terminal in a one-to-one relationship. Thereby Watanabe does not teach or suggest that a sheet-type electrode covers the upper portion of an element region (e.g., the Schottky diode).

In such ways, applicants respectfully submit that no combination of teachings of Watanabe in view of Davis fully meets each of the positively recited limitations of independent claims 21 and 24, and the claims dependent therefrom. Thus, applicants respectfully submit that claims 21-26 are also allowable.

As no other issues are pending in this application, it is respectfully submitted that the present application is now in condition for allowance, and it is hereby respectfully requested this case be passed to issue.

Respectfully submitted,

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